# Complete Summary

## GUIDELINE TITLE

Practice parameter: management of dementia (an evidence-based review). Report of the Quality Standards Subcommittee of the American Academy of Neurology.

## BIBLIOGRAPHIC SOURCE(S)

Doody RS, Stevens JC, Beck C, Dubinsky RM, Kaye JA, Gwyther L, Mohs RC, Thal LJ, Whitehouse PJ, DeKosky ST, Cummings JL. Practice parameter: management of dementia (an evidence-based review). Report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2001 May 8;56(9):1154-66. [175 references]

## COMPLETE SUMMARY CONTENT



## SCOPE

### DISEASE/CONDITION(S)

- Dementia
- Alzheimer´s disease

### GUIDELINE CATEGORY

Management
Treatment

### CLINICAL SPECIALTY

Family Practice
Geriatrics
Internal Medicine
Neurology

Pharmacology
Psychiatry

## INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Nurses
Pharmacists
Physician Assistants
Physicians

## GUIDELINE OBJECTIVE(S)

- To define and investigate key issues in the management of dementia
- To make literature-based treatment recommendations for the management of dementia

## TARGET POPULATION

Elderly patients with dementia or Alzheimer´s disease

## INTERVENTIONS AND PRACTICES CONSIDERED

### Pharmacologic Treatment of Alzheimer´s Disease

1. Cholinesterase inhibitors, such as tacrine, donepezil, rivastigmine, and galantamine
2. Precursors and agonists to improve cholinergic transmission and a number of other cognitive-enhancing drugs (considered but not recommended)
3. Vitamin E (alpha-tocopherol)
4. Selegiline
5. Estrogen (e.g., Premarin®), other antioxidants, and anti-inflammatories (e.g., diclofenac, indomethacin, prednisone) are considered but not recommended.

### Pharmacotherapy in Mixed Populations or Patients with Mixed Dementias

1. Gingko biloba

### Pharmacotherapy in Ischemic Vascular Dementia

1. Oxiracetam, cyclandelate, flunarizine, and pentoxifylline are considered but not recommended.

### Pharmacotherapy for Noncognitive Symptoms (behavioral symptoms, depression)

1. Antipsychotics, such as risperidone, haloperidol, thioridazine, olanzepine, quetiapine

2. Antihistamines, (e.g., diphenhydramine), benzodiazepines, (e.g., oxazepam), chelating agents (e.g., desferroxamine) and anticonvulsants (e.g, carbemazepine) are considered but not recommended
3. Antidepressants, such as selected tricyclic antidepressants (clomipramine, maprotiline); monoamine oxidase (MAO) inhibitors; and selective serotonin reuptake inhibitors (fluoxetine, fluvoxamine, citalopram, paroxetine)

### Educational Interventions

1. Short-term educational programs for caregivers of dementia patients
2. Intensive long-term education and support services for caregivers
3. Education of staff at long-term facilities

### Non-pharmacologic Interventions

1. Interventions to improve functional performance, such as behavior modification, scheduled toileting, prompted voiding to reduce urinary incontinence; measures to increase functional independence; low lighting levels, music, simulated nature sounds to improve eating behaviors; intensive multimodality group training to improve activities of daily living are considered but not recommended.
2. Non-pharmacologic interventions for problem behaviors, such as music, walking and other forms of light exercise, simulated presence therapy, massage, pet therapy, cognitive remediation, bright light, white noise, and other psychosocial programs are considered but not recommended.
3. Care environment alterations, such as special care units in long-term facilities are considered but not recommended.
4. Interventions for caregivers, such as support groups and training programs

### MAJOR OUTCOMES CONSIDERED

- Effectiveness of pharmacotherapy for cognitive symptoms on outcomes of patients with dementia as compared to no therapy
- Effectiveness of pharmacotherapy for noncognitive symptoms on outcomes of patients with dementia as compared to no therapy
- Effectiveness of educational interventions on outcomes in patients and/or caregivers of patients with dementia as compared to no interventions
- Effectiveness of nonpharmacologic interventions other than educational interventions on outcomes in patients and/or caregivers of patients with dementia as compared to no interventions

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Literature review process Search terms. Alzheimer´s disease, vascular or multi-infarct dementia, dementia with associated parkinsonian disorder (diffuse Lewy body disease, dementia with Lewy bodies, Parkinson´s disease with dementia), progressive supranuclear palsy, frontotemporal dementia (including Pick´s disease), and senile dementia. Additional search terms were question-specific:

- Question 1: Cholinesterase inhibitors, antioxidants, hormones, anti-inflammatory agents/drugs, cholinergic agents/drugs, nootropics (class of compounds structurally related to piracetam), metabolic enhancers, neurotrophic agents/drugs, (complementary) alternative medicines, treatment, and pharmacotherapy.
- Question 2: Hypnotics, antidepressants, anxiolytics, tranquilizers, sleep medications, selective serotonin reuptake inhibitors (SSRI), treatment and sleep, treatment and depression, treatment and anxiety, treatment and agitation, treatment and disinhibition, treatment and affective disorders, management, treatment and maintain (trunc), and treatment and discontinue (trunc).
- Questions 3 and 4: Counseling, education and caregiver, education and patient, environment, behavior (trunc) manag (trunc), behavior (trunc) and modif (trunc), advance directive, rehabilitation, and terminal care.

The key and index words for the special issue of cooperation between specialists were the following: treatment and multidisciplinary, treatment and team, treatment and community, neurologist (trunc), primary care, respite care, services, providers, transfer of care, long-term care, and family advocacy. Special issues related to economic models used the following key and index words: health care systems, health maintenance organization, preferred provider organization, medicaid, medicare, insurance, managed care, economic (trunc), and quality of care. Special issues related to determining capacity to consent used were the following: competency, decision-making, patient refusal of therapy/treatment, physician patient relations, patient rights, patient involvement, and informed consent.

Databases. For questions 1 and 2 the following databases were searched: MEDLINE, Embase, Current Contents, Psych Abstracts, and Cochrane databases. For questions 3 and 4: MEDLINE, Embase, Current Contents, Psychology Info, Cochrane, and CINAHL.

Inclusion/exclusion criteria and process. Studies selected included the following: randomized, controlled studies in all languages and other types of studies limited to English; human subjects with N greater than 20, regardless of outcome measured; and review articles published between January 1998 and November 1999. The nonpharmacologic intervention questions allowed smaller N for supporting studies to reflect the activity in the field. Members of the work group reviewed all search results and the bibliographies of the review articles to identify any articles that they thought were missing; these articles were submitted to the same inclusion/exclusion criteria. The initial search was conducted in October 1998; additional articles were added until July 2000.

Number and disposition of articles, data extraction, and classification of evidence. The search strategy identified 2,548 articles. A total of 380 met the predefined inclusion/exclusion criteria and were reviewed by at least two individuals. Selected

items from each article were entered into a standardized data extraction form, and each article was assigned a class of evidence based upon a priori definitions, which determined whether or not study results were ultimately translated into Standards, Guidelines, or Practice Options.

NUMBER OF SOURCE DOCUMENTS

380

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Classification of Evidence

I. Evidence provided by one or more well-designed, randomized, controlled clinical trials, including overviews (meta-analyses) of such trials.
II. Evidence provided by well-designed, observational studies with concurrent controls (e.g., case control or cohort studies).
III. Evidence provided by expert opinion, case series, case reports, and studies with historical controls.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

For all extracted articles, evidence tables were developed according to search question. These tables indicate the author and year of the study, level of evidence, main purpose of the study, population, intervention, out-come measures, and results.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Levels of Recommendations

Standard. Principle for patient management that reflects a high degree of clinical certainty (usually this requires Class I evidence that directly addresses the clinical questions, or overwhelming Class II evidence when circumstances preclude randomized clinical trials).

Guideline. Recommendation for patient management that reflects moderate clinical certainty (usually this requires Class II evidence or a strong consensus of Class III evidence).

Practice Option. Strategy for patient management for which the clinical utility is uncertain (inconclusive or conflicting evidence or opinion).

### COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

### METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

### DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

After the Quality Standards Subcommittee´s review and approval, the document was circulated to the members of the full Dementia Practice Parameter Work Group (committee members drafting the early detection and diagnosis of dementia sections), members of the American Academy of Neurology, Member Review Network, appropriate sections of the American Academy of Neurology, United States and international dementia experts, and selected patient advocacy and physician organizations.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Classification of evidence ratings, I-III, and the levels of recommendations (Standard, Guideline, Practice Option) are defined at the end of the "Major Recommendations" field.

Pharmacologic Treatment of Alzheimer's Disease

- Cholinesterase inhibitors should be considered in patients with mild to moderate Alzheimer's disease (Standard), although studies suggest a small average degree of benefit.
- Vitamin E (1000 I.U. PO BID) should be considered in an attempt to slow progression of Alzheimer's disease (Guideline).
- Selegiline (5 mg PO BID) is supported by one study, but has a less favorable risk-benefit ratio (Practice Option).
- There is insufficient evidence to support the use of other antioxidants, anti-inflammatories, or other putative disease-modifying agents specifically to treat Alzheimer's disease because of the risk of significant side effects in the absence of demonstrated benefits (Practice Option).
- Estrogen should not be prescribed to treat Alzheimer's disease (Standard).

Mixed Populations or Patients with Mixed Dementias

- Some patients with unspecified dementia may benefit from ginkgo biloba, but evidence-based efficacy data are lacking (Practice Option).

Ischemic Vascular Dementia

- There are no adequately controlled trials demonstrating pharmacologic efficacy for any agent in ischemic vascular (multi-infarct) dementia.

Treatment of Behavioral Disturbances

- Antipsychotics should be used to treat agitation or psychosis in patients with dementia where environmental manipulation fails (Standard). Atypical agents may be better tolerated compared with traditional agents (Guideline).
- Selected tricyclics, monamine oxidase-B (MAO-B inhibitors), and selective serotonin reuptake inhibitors (SSRI) should be considered in the treatment of depression in individuals with dementia with side effect profiles guiding the choice of agent (Guideline).

Educational Interventions

- Short-term programs directed toward educating family caregivers about Alzheimer's disease should be offered to improve caregiver satisfaction (Guideline).
- Intensive long-term education and support services (when available) should be offered to caregivers of patients with Alzheimer's disease to delay time to nursing home placement (Guideline).
- Staff of long-term care facilities should receive education about Alzheimer's disease to reduce the use of unnecessary antipsychotics (Guideline).

Interventions to Improve Functional Performance

- Behavior modification, scheduled toileting, and prompted voiding should be used to reduce urinary incontinence (Standard).
- Graded assistance, practice, and positive reinforcement should be used to increase functional independence (Guideline).
- Low lighting levels, music, and simulated nature sounds may improve eating behaviors for persons with dementia, and intensive multimodality group training may improve activities of daily living, but these approaches lack conclusive supporting data (Practice Options).

Nonpharmacologic Interventions for Problem Behaviors

- Persons with dementia may experience decreased problem behaviors with the following interventions: music, particularly during meals and bathing (Guideline); walking or other forms of light exercise (Guideline).
- Although evidence is suggestive only, some patients may benefit from the following (Practice Options):

- Simulated presence therapy, such as the use of videotaped or audiotaped family
- Massage
- Comprehensive psychosocial care programs
- Pet therapy
- Commands issued at the patient´s comprehension level
- Bright light, white noise
- Cognitive remediation

Care Environment Alterations

- Although definitive data are lacking, the following environments may be considered for patients with dementia (Practice Options):
    - Special care units (SCU) within long-term care facilities
    - Homelike physical setting with small groups of patients as opposed to traditional nursing homes
    - Short-term, planned hospitalization of 1 to 3 weeks with or without blended inpatient and outpatient care
    - Provision of exterior space, remodeling corridors to simulate natural or home settings, and changes in the bathing environment

Interventions for Caregivers

- The following interventions may benefit caregivers of persons with dementia and may delay long-term placement (Guidelines):
    - Comprehensive, psychoeducational caregiver training
    - Support groups
- Additional patient and caregiver benefits may be obtained by use of computer networks to provide education and support to caregivers (Practice Option), telephone support programs (Practice Option), and adult day care for patients and other respite services (Practice Option).

Definitions:

Classification of Evidence

I. Evidence provided by one or more well-designed, randomized, controlled clinical trials including overviews (meta-analyses) of such trials.
II. Evidence provided by well-designed, observational studies with concurrent controls (e.g., case control or cohort studies).
III. Evidence provided by expert opinion, case series, case reports, and studies with historical controls.

Levels of Recommendations

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Practice Option. Strategy for patient management for which the clinical utility is uncertain (inconclusive or conflicting evidence or opinion).

### CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on a review of the literature. The type of supporting evidence is identified and graded for each recommendation on the management of dementia.

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Appropriate pharmacologic and non-pharmacologic management of dementia

### POTENTIAL HARMS

Not stated

## QUALIFYING STATEMENTS

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This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use specific procedures. Neither is it intended to exclude any reasonable alternative methodologies. The American Academy of Neurology recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all the circumstances involved.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### RELATED QUALITY TOOLS

- American Academy of Neurology (AAN) Guideline Summary for Clinicians: Detection, Diagnosis and Management of Dementia

- American Academy of Neurology (AAN) Guideline Summary for Patients and Their Families: Alzheimer's Disease

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better
Living with Illness

### IOM DOMAIN

Effectiveness
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

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### ADAPTATION

Not applicable: Guideline was not adapted from another source.

### DATE RELEASED

2001 May

### GUIDELINE DEVELOPER(S)

American Academy of Neurology - Medical Specialty Society

### SOURCE(S) OF FUNDING

American Academy of Neurology (AAN)

## GUIDELINE COMMITTEE

Quality Standards Subcommittee

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Authors: R.S. Doody, MD, PhD; J.C. Stevens, MD; C. Beck, RN, PhD; R.M. Dubinsky, MD; J.A. Kaye, MD; L. Gwyther, MSW; R.C. Mohs, PhD; L.J. Thal, MD; P.J. Whitehouse, MD, PhD; S.T. DeKosky, MD; and J.L. Cummings, MD

## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Committee members disclosed any real or potential conflicts of interest.

## ENDORSER(S)

American Association of Neuroscience Nurses - Professional Association
American Geriatrics Society - Medical Specialty Society

## GUIDELINE STATUS

This is the current release of the guideline.

## GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Neurology (AAN) Web site.

Print copies: Available from the AAN Member Services Center, (800) 879-1960, or from AAN, 1080 Montreal Avenue, St. Paul, MN 55116.

## AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- AAN guideline summary for clinicians. Detection, diagnosis and management of dementia. St. Paul (MN): American Academy of Neurology, 2001. Electronic copies: Available from the American Academy of Neurology (AAN) Web site.
- AAN guideline development process. St. Paul (MN): American Academy of Neurology. Electronic copies: Available from the AAN Web site.

## PATIENT RESOURCES

The following is available:

- AAN guideline summary for patients and their families: Alzheimer's disease guidelines. St. Paul (MN): American Academy of Neurology. 4 p.

Electronic copies: Available in Portable Document Format (PDF) from the American Academy of Neurology (AAN) Web site.

## NGC STATUS

This NGC summary was completed by ECRI on February 12, 2002. The information was verified by the guideline developer on September 5, 2003.

## COPYRIGHT STATEMENT



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